



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,043	04/27/2001	Richard Hans Harvey	063170.6290	2690

5073 7590 04/11/2007
BAKER BOTTS L.L.P.
2001 ROSS AVENUE
SUITE 600
DALLAS, TX 75201-2980

EXAMINER

CORRIELUS, JEAN M

ART UNIT	PAPER NUMBER
----------	--------------

2162

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/11/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/11/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mike.furr@bakerbotts.com
ptomail1@bakerbotts.com

Office Action Summary

Application No.

09/844,043

Applicant(s)

HARVEY, RICHARD HANS

Examiner

Jean M. Corrielus

Art Unit

2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,12-17,20-22,24-28 and 3136 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-9,12-17,20-22,24-28 and 3136 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/04, 16/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Art Unit: 2162

DETAILED ACTION

1. This office action is response the amendment filed on December 28, 2006, in which claims 1, 4-9, 12-17, 20-22, 24-28 and 31-36 are presented for further examiner.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed on January 04 and 16, 2007 complies with the provisions of M.P.E.P 609. It has been placed in the application file. The information referred to therein has been considered as to the merits.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-28 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 6, 7, 14-16, 33, 34 and 35 recite "can be". Applicant should duly note that "can be pre-evaluated to true" raises question as to whether the filter item can actually be pre-evaluated to true. The probability for the data item to be pre-evaluated is equal to the data item can not pre-evaluated. The same question raises for "can be ignored".

The applicant claims 1, 9, 17, 28 and 36 recite "applying a logical methodology to evaluate the NOT connective, the logical methodology comprising expanding an expression of the filter item so that the filter item does not comprise the NOT connective". This limitation of the claim is in contradiction to the provided basis: "If the

Art Unit: 2162

filter item with a NOT connective is a type only filter item then a logical methodology can be utilized to evaluate or process the filter item which avoids a NOT in the SQL. The logical methodology may be a subtraction method expressed in expression 117 below or any other suitable methodology capable of expanding an expression so that the filter item does not contain NOT connectives" (specification page 12, lines 7-11). This portion of the specification does not evaluate the NOT connectivity using the logical methodology to expand an expression, but evaluate the filter item using the logical methodology to expand an expression.

Claims 5, 13, and 32 recite "if it is determined that the filter item comprises a NOT connective and a type and value filter item, pushing the NOT connective associated with the type and value filter item inside the filter item, resulting in changing an operator inside the filter item". This limitation of the claim is in contradiction to the provided basis: "If the filter item with a NOT connective is a type and value filter item then the present application pushes the NOT connective, into the filter item which avoids a NOT in the outer SQL" (page 12, lines 12 - 14). This passage does not describe eliminating the NOT connective, but pushing the NOT connective into a (different) filter item, thereby just avoiding a NOT in the outer join.

Claim 24 recites "may involve". It appears that such limitation of the claimed would actually involve at least one table join. It is raises question as whether the limitation as claimed would perform act.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1, 4-9, 12-17, 20-22, 24-28 and 31-36 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1, 9, 17, 28 and 36 recite “if it is determined that the filter item comprises a NOT connective and a type only filter item, apply a logical methodology to evaluate the NOT connective, the logical methodology comprising expanding an expression of the filter item so that the filter item does not comprise the NOT connective” could be reasonably be considered a tangible and useful result when the dirty data items are selected, it appears to have no claimed result in the condition when the filter item does not comprise a NOT connective; and when the filter item does not comprise one of a type only filter item or a type and value filter item to form the basis statutory subject matter under 35 U.S.C 101.

Claims 6, 14 and 33 “determining if each filter item can be pre-evaluated to true”. The claim does not provide any tangible, concrete and useful result to form the basis statutory under 35 USC 101.

Claims 7, recite “ignoring an expanded term of the expanded filter if each filter item can be pre-evaluated to false” could be reasonably be considered a tangible and useful result when the dirty data items are selected, it appears to have no claimed result in the condition when if each filter item can be pre-evaluated to True.

Art Unit: 2162

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4-9, 12-17, 20-22, 24-28 and 31-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Antoshenkov US Patent no. 5,664,172.

As to claim 1, Antoshenkov discloses a computerized query optimizer for use with a database system. Before compiling the query, the query is optimized and transformed to canonical form. In order to optimize queries including a NOT operator, the queries are first expanded using logic principles (column 8, lines 56- 64). Antoshenkov discloses the use of expands the filter of the service query using the logical evaluation of the key segments, and the propagation of the logical conditions derived from the evaluation process (col.15, lines 48-52). The optimization aims at the elimination of all NOT logical operators of the query (i.e. for type-only filter items as well as for type-and-value filter items) by applying the well-known De Morgans's law and by reversing AND and OR operators where necessary (column 8, lines 52 - 64).

As to claims 9 and 17:

The limitations of claims 9 and 17 have been noted in the rejection of claim 1 above.

They are, therefore, rejected under the same rationale.

Art Unit: 2162

As to claim 4-5, Antoshenkov discloses the underlying idea of this optimization is at least to push all logical NOT operators down from inferior nodes to bottom level nodes (column 6, lines 12- 24) for earlier processing and better performance.

As to claims 6-8, Antoshenkov discloses “wherein the condition test further comprises determining if each filter item can be pre-evaluated to false, such that an expanded term of the expanded filter can be ignored, and wherein expanding the filter comprises expanding the filter to a minimum set of terms” (col.10, lines 22-35).

As to claims 13-16, Antoshenkov discloses “wherein, if it is determined that the filter item comprises a NOT connective and a type and value filter item, a NOT connective associated with a type and value filter item is pushed inside the filter item resulting in changing an operator inside the filter item; wherein the condition test means is further operable to determine if each filter item can be pre-evaluated to be true, wherein the condition test means is further operable to determine if each filter item can be pre-evaluated to be false, such that an expanded term of the expanded filter can be ignored, wherein the condition test means is further operable to determine if each filter can be pre-evaluated to be true, but is inverted by a NOT connective, such that the expanded term can be ignored” (col.8, lines 51-56; col.10, lines 21-35).

As to claims 20-22, Antoshenkov discloses “wherein the logical methodology comprises a subtraction method, wherein the subtraction method comprises using an ANSI SQL “except” clause; and wherein the subtraction method comprises transforming each filter

Art Unit: 2162

item to a form that contains fewer or no NOT connectives” (eliminating all NOT connective; col.8, lines 52-64).

As to claims 24-27, Antoshenkov discloses “adding, if the filter item is a type and value filter item, SQL representing the filter item to an expression to be evaluated, which may involve at least one table join; if the filter item is an inverse of the type and value filter item, pushing the NOT connective inside the filter item; applying the pushed NOT connective to an operator; and wherein the step of applying the pushed NOT is effected by inverting the operator” (the underlying idea of this optimization is at least to push all logical NOT operators down from inferior nodes to bottom level nodes (column 6, lines 12- 24) for earlier processing and better performance).

As claims 28 and 31-36:

The limitations of claims 28, 31-36 have been noted in the rejection above. They are, therefore, rejected under the same rationale.

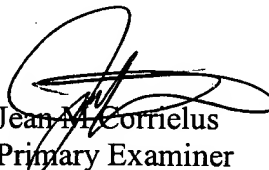
Art Unit: 2162

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean M. Corrielus whose telephone number is (571) 272-4032. The examiner can normally be reached on 10 hours shift.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jean M. Corrielus
Primary Examiner
Art Unit 2162

March 30, 2007